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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/328,910	06/09/99	KAJIHARA	Y 500.32049R00

EXAMINER	
CLARK, J	
ART UNIT	PAPER NUMBER
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020457 MM92/0411
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DATE MAILED: 04/11/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary	Application No. 09/328,910	Applicant(s) KAJIHARA ET AL.	
	Examiner Jhihan B. Clark	Art Unit 2815	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-72* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *50-72* is/are allowed.

6)☒ Claim(s) *37,38,41-45,48 and 49* is/are rejected.

7)☒ Claim(s) *39, 40, 46, 47* is/are objected to.

8)☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

a)☐ All b)☐ Some * c)☐ None of the CERTIFIED copies of the priority documents have been:

1.☐ received.

2.☐ received in Application No. (Series Code / Serial Number) _____ .

3.☐ received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. & 119(e).

Attachment(s)

14) ☒ Notice of References Cited (PTO-892)
15) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
16) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *8, 10* .
17) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
18) ☐ Notice of Informal Patent Application (PTO-152)
19) ☐ Other: .

Reissue Applications

Specification

1. The disclosure is objected to because of the following informalities: in page 6, line 39, change "Face" to –face--; in page 8, line 49, change "1S" to –15--. Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

Claims 37, 38, 41, 43-45, 48, and 49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mori et al. (US 4,857,989) in view of Umeda (JP 1-216563) together with Kohara (4,937,656).

Concerning claims 37 and 41, Mori et al disclose substantially all structure featured as the claimed invention such as a semiconductor chip 1 (see Fig. 4) including semiconductor elements (nor shown) within the semiconductor chip 1 and a plurality of electrode pads 4 bonded on a main surface of the chip; a lead frame (see col. 2, line 13) having a chip mounting portion 2 for mounting the chip, a plurality of leads each having an inner lead portion and an outer portion electrically connected to the electrode pads on the main surface of the chip through bond wires 5. While a resin member is not clearly shown or taught, it is inherently present or it certainly would have been obvious to employ the resin member sealing the semiconductor chip 1, the plurality of bonding wires 5 and the chip mounting portion 2 and the inner lead portions of the plurality of leads in the semiconductor device environment, as are notoriously known. However, Mori et al fail to disclose that the chip mounting portion is smaller than the semiconductor chip. Kohara dislcoses that the semiconductor chip 1 (see dash line in Fig. 10) can be fixed on the lead frame 2 more securely by being fixed to the small die pad/chip mounting portion 21 (see col. 5, lines 7-10). Hence, it would have been obvious to one having ordinary skill in the art at the time the invention was made for Mori et al to use the chip mounting portion which is smaller than the semiconductor chip for the same reason as taught by Kohara.

Initially, and with respect to the recitation "wherein said one surface if said chip mounting portion is a surface on which burrs are not formed, during formation of said mounting chip portion" in claim 37, note that a "product by process" claim is directed to

the product per se, no matter how actually made. See In re Thorpe et al., 227 USPQ 964 (CAFC, 1985) and the related case law cited therein which make it clear that it is the final product per se which must be determined in a "product by process" claim, and not the patentability of the process, and that, as here, an old or obvious product produced by a new method is not patentable as a product, whether claimed in "product by process" claims or not. Note that the Applicants have burden of proof in such cases as the above case law makes clear.

Concerning claim 38, wherein said burrs are formed when said lead frame is made by pressing. Please *see In re Thorpe* above.

Concerning claims 43, 44, 48, 49, please see the above discussion under claim 37, 38, and 41. However, Mori et al fail to disclose including burrs formed on each of the inner lead of the plurality of leads. Umeda discloses punching burrs of the lead generated in a pressing step (please see abstract). Hence, it would have been obvious to one having ordinary skill in the art at the time the invention was made for Mori et al to punch the leads so that the burrs can be formed for the reasons taught by Umeda.

Concerning claim 45, please see *In re Thorpe* above.

3. Claim 42 is rejected under 35 U.S.C. 103(a) as being unpatentable over the references as applied to claims 37, 38, 41, and 43-45 above, and further in view of Kanzaki et al. (US 5,205,878).

As per the above discussion, Mori et al fail to disclose parts of the inner leads are plated. Kanzaki et al disclose in column 1, lines 67-68, and column 2, lines 1-3 "[T]he leadframe is often plated Ag/Au on the inner lead ...Therefore, good platability..." Hence, it would have been obvious for Mori et al to have parts of the inner leads be plated for the reasons taught by Kanzaki et al.

.Allowable Subject Matter

4. Claims 39, 40, 46, and 47 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The applied references fail to teach that the chip mounting portion has a substantially circular and/or cross form in a plane view as set forth in claims 39, 40, 46, and 47.

5. Claims 50-72 are allowed.

The following is an examiner's statement of reasons for allowance: the applied references in an individual and/or in combination teach the limitations as set forth in the above claims (see paragraphs 4 and 5 above) but fail to teach and/or suggest the including the following:

a) an insulating tape adhered the inner lead portion and the suspension leads as set forth in claim 50;

b) the rear surface of the chip is bonded to the side of the first surface of the chip mounting portion by an adhesive layer, and such that a part of each of the suspension leads which is located under the chip, is spaced apart from the rear surface of the chip as set forth in claims 57 and 62;

c) the rear surface of the chip is fixed to the first and second suspension leads at the vicinity of an intersecting point of the first and second suspension leads by an adhesive as set forth in claims 63 and 68.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

6. Note that: this Re-Issue Application 09/328,910 was re-searched, in class 257, subclasses 666, 670, 676, 783, 787, 678, 793; class 361, subclass 813; class 438, subclasses 123; class 29, subclass 827, in view of the limitations of the claimed invention. A full search on EAST (USPAT, JP, EP, Derwent) was done, was done, and no more references could be found.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jhihan B. Clark whose telephone number is (703) 308-4857. The examiner can normally be reached on From M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie Lee can be reached on (703) 308-1690. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Jbc/04/07/01

Jhihan B Clark

Jhihan B Clark
Patent Examiner
AU 2815